

ABSTRACT OF THE DISCLOSURE

A system associates multiple discrete traffic flows within a computer network into a group, and allows the traffic flows corresponding to a given group to share a single set of resources. A sourcing entity preferably generates a locally unique resource identifier 5 (ID) for use in requesting a reservation of network resources for a first traffic flow or session. Intermediate network devices within the computer network reserve a set of resources and associate the reservation with the specified resource ID. The sourcing entity may then re-use this same resource ID in a subsequent request to reserve resources for a second traffic flow or session. The intermediate network devices determine that a reservation made by the sourcing entity and associated with this resource ID already exists 10 and, rather than reserve additional or further resources for the second traffic flow or session, share the previously reserved resources between the two traffic flows or sessions.